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EXAMINER	
MISLEH, JUSTIN P	

ART UNIT	PAPER NUMBER
2612	3

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/768,507	SUEMOTO ET AL.
	Examiner	Art Unit
	Justin P Misleh	2612

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1 - 19 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1 - 4, 6 - 14, and 16 - 20 is/are rejected.

7)☒ Claim(s) 5 and 15 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 25 January 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. The disclosure is objected to because of an inconsistency.

On page 20 (in the second full paragraph), the Applicant states, "That is, if the power source is the alternating power source 110 or the fully-charged NiMH battery 116, it is determined that the powers source voltage is larger than or equal to the first predetermined value."

However, also on page 20 (in the last paragraph), the Applicant inconsistently states, "If the power source voltage value is at least the first predetermined value, the power source voltage is either the alternating power source 110 or the fully-charged alkaline battery 112."

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1 – 3, 6 – 8, 11 – 13, and 16 – 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita in view of Anderson et al.

5. For **Claim 1**, Takeshita discloses, as shown in figures 1, 8, 14(a), 14(b), 15, 17(a), and 17(b) and as stated in columns 5 (lines 5 – 17 and 61 – 67), 6 (lines 10, 11, 26, 27, and 34 – 43), 8 (lines 5 – 30, 43 – 49, and 57 – 65), 9 (lines 13 – 18 and 33 – 37), 10 (lines 1 – 26 and 44 – 49), 11 (lines 8 – 18 and 35 – 37), and 12 (lines 1 – 10), a digital camera (see figure 15) comprising:

(a) a housing (fixed tube 2) having a lens barrel (comprised of first-lens group tube 3, second-lens group tube 9, and third lens group tube 15) movable along an optical axis;

(b) a zoom lens group (first-lens group 4, 5, and 6 and second-lens group 10, 11, and 12; see column 9, lines 13 – 37) and a focus lens group (third-lens group 16; see column 10, lines 20 – 26) movable relative to one another along the optical axis in the lens barrel;

(c) a zoom motor (DC motor 38; see column 9, lines 13 – 37; see column 10, lines 44 – 49) connected to the lens barrel (attached to driving ring 37; see figures 1 and 8) operable for moving the lens barrel to a position corresponding to a selected magnification;

(d) a focus motor (Stepping motor 24; see column 11, lines 8 – 12) connected to the focus lens group operable for moving the focus lens group to a focus position corresponding to the selected magnification (see column 10, lines 20 – 26 and 61 – 64);

(e) a lens cover (lens barrier 54) movable between closed (see figure 14(a)) and open (see figure 14(b)) positions for protecting at least one lens (at least the first-lens group 4, 5, and 6), and a lens cover driving motor (also the DC motor 38) connected to the lens cover (via the stepped part 37f of the driving ring 37), operable for moving the lens cover between closed and open positions (see figures 8, 14(a), and 14(b); column 6, lines 34 – 43; and column 8, lines 5 – 30);

(f) an electric power source (Not specifically shown or stated; however, it is clearly necessary for operation; and thus, it is inherent an electric power source exists);

(g) a controller (control part 74) connected to the electric power source and controlling the zoom motor and the focus motor (see column 8, lines 43 – 49), and

(h) an image sensor (image sensor 32) supported in the housing (see any of figures 1 – 4) for receiving light through the lens groups, and operable for producing data in correspondence with light received through the lens groups for image recording.

In summary, Takeshita discloses, as shown in figures 17(a) and 17(b) and stated in columns 10 (lines 32 – 64) and 11 (lines 8 – 18), that upon power-up the controller operates the lens barrel (which is retracted in a stowage position; see figure 2) to drive the DC motor (38), which drives the driving ring (37) to simultaneously move the zoom lens group (first-lens group and second-lens group) and the lens barrier (54) to a stand-by state (see figure 3). Thereafter, the controller (74) drives the stepping motor (24) to move the focus lens group (third-lens group) to a stand-by state (see figure 4), wherein the camera is now ready for a photo-taking operation. Furthermore, Takeshita also discloses, as stated in column 12 (lines 1 – 10), that the first-lens-group tube (3), the second-lens-group tube (9), and the third-lens-group tube (15) are arranged not to simultaneously move in drawing out the lens barrel to the photo-taking position or in drawing in the lens barrel to the stowage position; although, the first-lens-group tube (3), the second-lens-group tube (9), and the third-lens-group tube (15) may be made to simultaneously move, if such a sequence of operations as to prevent those tubes from colliding with each other is adopted.

However, Takeshita still does not disclose wherein the controller determining during power initiation whether a voltage decrease from the electric power source during operation of one of the lens cover driving motor and the zoom motor is less than a predetermined value, and if so, controlling the zoom motor and the focus motor to substantially overlap in operation to move the lens groups to initialization positions.

Moreover, Anderson et al. also teach a digital camera with a controller, a zoom motor, a focus motor, and an electric power source. More specifically, as shown in figures 2, 3, 5, 6, 7A and 7B and as stated in columns 4 (lines 26, 37 – 39, 66, and 67), 5 (lines 1 – 14 and 64 – 67), 6 (lines 1 – 21), 7 (lines 30 – 34 and 37 – 43), 9 (lines 30 – 39, 53 – 58, and 64 – 67), and 10 (lines 1 – 5, 28 – 34, and 60 – 65), Anderson et al. teach that upon a power-on signal (steps 600 and 604), the voltage sensor (76) compares the power source (74) voltage with a threshold voltage, wherein if the power source voltage (74) is less than the threshold voltage, the controller changes the power state of the camera (Power State 5 → Power State 1), from a high power state to a low power state, until the power source (74) voltage exceeds the threshold voltage. Furthermore, Anderson et al. teach that if the controller determines that is necessary to change the power state to Power State 3, the controller configures the zoom and focus motors (46) for sequential operation rather than simultaneous operation. Therefore, in regards to the claim language, Anderson et al. teach that if the decrease in voltage from operating the motors (46) during power initiation exceeds a predetermined value (or rather in other words if the voltage value during motor operation exceeds the threshold voltage), the power state of the camera does not need to be changed and the motors (46) are operated simultaneously and not sequentially.

As stated in column 2 (lines 42 – 47), at the time the invention was made, one with ordinary skill in the art would have been motivated to include simultaneous or sequential zoom and focus motor operation upon power initiation based upon the determined voltage of a power source, as taught by Anderson et al., in the digital camera with retractable lens barrel including a lens barrier, disclosed by Takeshita, as a means to automatically compensate for the effects of power supply degradation in order to maximize a power supply's useable life, thereby optimizing camera performance independent of the power supply's operating characteristics. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to include simultaneous or sequential zoom and focus motor operation upon power initiation based upon the determined voltage of a power source, as taught by Anderson et al., in the digital camera with retractable lens barrel including a lens barrier, disclosed by Takeshita.

6. As for **Claim 2**, as taught above, Anderson et al. teach sequential zoom and focus motor operation if the power source voltage does not exceed a threshold value (or rather the decrease in voltage due to the operation the motors exceeds a predetermined value). Anderson et al. does not specify which motor is to operate first, only that they operate sequentially.

7. As for **Claim 3**, as stated above, Takeshita disclose that upon power initiation, the zoom-lens group is first moved from a retracted position to a stand-by position and then the focus-lens group is moved from a retracted position to a stand-by position. Anderson et al. provides the differentiation between sequential and simultaneous motor operation based upon the determined power source voltage upon power initiation.

8. For **Claim 6**, Takeshita discloses, as shown in figures 1, 8, 14(a), 14(b), 15, 17(a), and 17(b) and as stated in columns 5 (lines 5 – 17 and 61 – 67), 6 (lines 10, 11, 26, 27, and 34 – 43),

8 (lines 5 – 30, 43 – 49, and 57 – 65), 9 (lines 13 – 18 and 33 – 37), 10 (lines 1 – 26 and 44 – 49), 11 (lines 8 – 18 and 35 – 37), and 12 (lines 1 – 10), a digital camera (see figure 15) comprising:

(a) a housing (fixed tube 2) having a lens barrel (comprised of first-lens group tube 3, second-lens group tube 9, and third lens group tube 15) movable along an optical axis;

(b) a zoom lens group (first-lens group 4, 5, and 6 and second-lens group 10, 11, and 12; see column 9, lines 13 – 37) and a focus lens group (third-lens group 16; see column 10, lines 20 – 26) movable relative to one another along the optical axis in the lens barrel;

(c) a zoom motor (DC motor 38; see column 9, lines 13 – 37; see column 10, lines 44 – 49) connected to the lens barrel (attached to driving ring 37; see figures 1 and 8) operable for moving the lens barrel to a position corresponding to a selected magnification;

(d) a focus motor (Stepping motor 24; see column 11, lines 8 – 12) connected to the focus lens group operable for moving the focus lens group to a focus position corresponding to the selected magnification (see column 10, lines 20 – 26 and 61 – 64);

(e) a lens cover (lens barrier 54) movable between closed (see figure 14(a)) and open (see figure 14(b)) positions for protecting at least one lens (at least the first-lens group 4, 5, and 6), and a lens cover driving motor (also the DC motor 38) connected to the lens cover (via the stepped part 37f of the driving ring 37), operable for moving the lens cover between closed and open positions (see figures 8, 14(a), and 14(b); column 6, lines 34 – 43; and column 8, lines 5 – 30);

(f) an internal electric power source (Not specifically shown or stated; however, it is clearly necessary for operation; and thus, it is inherent an internal electric power source exists.);

(g) a controller (control part 74) connected to the internal electric power source and controlling the zoom motor and the focus motor (see column 8, lines 43 – 49), and

(h) an image sensor (image sensor 32) supported in the housing (see any of figures 1 – 4) for receiving light through the lens groups, and operable for producing data in correspondence with light received through the lens groups for image recording.

In summary, Takeshita discloses, as shown in figures 17(a) and 17(b) and stated in columns 10 (lines 32 – 64) and 11 (lines 8 – 18), that upon power-up the controller operates the lens barrel (which is retracted in a stowage position; see figure 2) to drive the DC motor (38), which drives the driving ring (37) to simultaneously move the zoom lens group (first-lens group and second-lens group) and the lens barrier (54) to a stand-by state (see figure 3). Thereafter, the controller (74) drives the stepping motor (24) to move the focus lens group (third-lens group) to a stand-by state (see figure 4), wherein the camera is now ready for a photo-taking operation. Furthermore, Takeshita also discloses, as stated in column 12 (lines 1 – 10), that the first-lens-group tube (3), the second-lens-group tube (9), and the third-lens-group tube (15) are arranged not to simultaneously move in drawing out the lens barrel to the photo-taking position or in drawing in the lens barrel to the stowage position; although, the first-lens-group tube (3), the second-lens-group tube (9), and the third-lens-group tube (15) may be made to simultaneously move, if such a sequence of operations as to prevent those tubes from colliding with each other is adopted.

However, Takeshita still does not disclose wherein the controller controlling the zoom motor and the focus motor to substantially overlap in operation upon power initiation to move

the lens groups to initialization positions if the internal electric power source is connected to an AC power source.

Moreover, Anderson et al. also teach a digital camera with a controller, a zoom motor, a focus motor, and an electric power source. More specifically, as shown in figures 2, 3, 5, 6, 7A and 7B and as stated in columns 4 (lines 26, 37 – 39, 66, and 67), 5 (lines 1 – 14 and 64 – 67), 6 (lines 1 – 21), 7 (lines 30 – 34 and 37 – 43), 9 (lines 30 – 39, 53 – 58, and 64 – 67), and 10 (lines 1 – 5, 28 – 34, and 60 – 65), Anderson et al. teach that upon a power-on signal (steps 600 and 604), the voltage sensor (76) compares the power source (74) voltage with a threshold voltage, wherein if the power source voltage (74) is less than the threshold voltage, the controller changes the power state of the camera (Power State 5 → Power State 1), from a high power state to a low power state, until the power source (74) voltage exceeds the threshold voltage, and that when the camera is connected to an AC power source, via power source (74), the controller always keeps the camera in the highest power state (Power State 5). Furthermore, Anderson et al. teach that only when the camera is in Power States 1 – 3 does the controller configure the zoom and focus motors (46) for sequential operation rather than simultaneous operation (as in Power State 5; see column 10, lines 1 – 5).

As stated in column 2 (lines 42 – 47), at the time the invention was made, one with ordinary skill in the art would have been motivated to include simultaneous zoom and focus motor operation upon power initiation when the camera is connected to an AC powers source, as taught by Anderson et al., in the digital camera with retractable lens barrel including a lens barrier, disclosed by Takeshita, as a means to automatically compensate for the effects of power supply degradation in order to maximize a power supply's useable life, thereby optimizing

camera performance independent of the power supply's operating characteristics. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to include simultaneous zoom and focus motor operation upon power initiation when the camera is connected to an AC powers source, as taught by Anderson et al., in the digital camera with retractable lens barrel including a lens barrier, disclosed by Takeshita.

9. As for **Claim 7**, Anderson et al., as stated above, teach that that when the camera is connected to an AC power source, via power source (74), the controller always keeps the camera in the highest power state (Power State 5). Furthermore, Anderson et al. teach that upon a power-on signal (steps 600 and 604), the voltage sensor (76) compares the power source (74) voltage with a threshold voltage, wherein if the power source voltage (74) is less than the threshold voltage, the controller changes the power state of the camera (Power State 5 → Power State 1), from a high power state to a low power state, until the power source (74) voltage exceeds the threshold voltage. Therefore, since the test to determine whether an AC source is connected to the camera is by constantly monitoring the power source via the voltage sensor, the controller does in fact determine whether or not an AC power source is connected to the internal power source on the basis of the power source voltage value during power initiation and a whether that voltage value becomes weaker.

10. As for **Claim 8**, Anderson et al. teach, as stated in column 7 (lines 55 – 65), the minimum voltage for the entire camera is 4.8 volts (the threshold voltage for Power State 1), since, when the camera is connected to an AC power source, the camera is in Power State 5 and since, Power State 5 is a much higher power state than Power State 1, it must be true that the threshold for Power State 5 is higher than 4.8 volts, and accordingly, 2.9 volts (as required by the claim

language). Furthermore, any time the power state is in Power State 4 or 5, the zoom and focus motors operate simultaneously (see column 10, lines 1 – 5).

11. As for **Claim 11**, Takeshita discloses, as shown in figures 1, 8, 14(a), 14(b), 15, 17(a), and 17(b) and as stated in columns 5 (lines 5 – 17 and 61 – 67), 6 (lines 10, 11, 26, 27, and 34 – 43), 8 (lines 5 – 30, 43 – 49, and 57 – 65), 9 (lines 13 – 18 and 33 – 37), 10 (lines 1 – 26 and 44 – 49), 11 (lines 8 – 18 and 35 – 37), and 12 (lines 1 – 10), a method for activating a digital camera having a zoom (4, 5, and 6) and focus lens group (15) respectively driven by a zoom and focus motor (38 and 24), a lens cover (54) driven by a lens cover driving motor (also 38), and a power source (not specifically shown or stated but inherent).

In summary, Takeshita discloses, as shown in figures 17(a) and 17(b) and stated in columns 10 (lines 32 – 64) and 11 (lines 8 – 18) and corresponding to Claimed step (b), that upon power-up the controller operates the lens barrel (which is retracted in a stowage position; see figure 2) to drive the DC motor (38), which drives the driving ring (37) to simultaneously move the zoom lens group (first-lens group and second-lens group) and the lens barrier (54) to a stand-by state (see figure 3). Thereafter, the controller (74) drives the stepping motor (24) to move the focus lens group (third-lens group) to a stand-by state (see figure 4), wherein the camera is now ready for a photo-taking operation. Furthermore, Takeshita also discloses, as stated in column 12 (lines 1 – 10), that the first-lens-group tube (3), the second-lens-group tube (9), and the third-lens-group tube (15) are arranged not to simultaneously move in drawing out the lens barrel to the photo-taking position or in drawing in the lens barrel to the stowage position; although, the first-lens-group tube (3), the second-lens-group tube (9), and the third-

lens-group tube (15) may be made to simultaneously move, if such a sequence of operations as to prevent those tubes from colliding with each other is adopted.

However, Takeshita still does not disclose wherein the method comprises: (a) determining a power source voltage available upon power initiation prior to driving any of the motors and (c) substantially overlapping operation of the zoom and focus motors to drive the zoom and focus lens group to initialization positions if the amount of power source voltage decrease is less than a predetermined amount.

Moreover, Anderson et al. also teach a digital camera with a controller, a zoom motor, a focus motor, and an electric power source. More specifically, as shown in figures 2, 3, 5, 6, 7A and 7B and as stated in columns 4 (lines 26, 37 – 39, 66, and 67), 5 (lines 1 – 14 and 64 – 67), 6 (lines 1 – 21), 7 (lines 30 – 34 and 37 – 43), 9 (lines 30 – 39, 53 – 58, and 64 – 67), and 10 (lines 1 – 5, 28 – 34, and 60 – 65), Anderson et al. teach that upon a power-on signal (steps 600 and 604), the voltage sensor (76) compares the power source (74) voltage with a threshold voltage (corresponding to Claimed step (a)), wherein if the power source voltage (74) is less than the threshold voltage (also corresponding to Claimed step (b)), the controller changes the power state of the camera (Power State 5 → Power State 1), from a high power state to a low power state, until the power source (74) voltage exceeds the threshold voltage. Furthermore, Anderson et al. teach that if the controller determines that is necessary to change the power state to Power State 3, the controller configures the zoom and focus motors (46) for sequential operation rather than simultaneous operation (corresponding to Claimed step (c)). Therefore, in regards to the claim language, Anderson et al. teach that if the decrease in voltage from operating the motors (46) during power initiation exceeds a predetermined value (or rather in other words if the voltage

value during motor operation exceeds the threshold voltage), the power state of the camera does not need to be changed and the motors (46) are operated simultaneously and not sequentially.

As stated in column 2 (lines 42 – 47), at the time the invention was made, one with ordinary skill in the art would have been motivated to include simultaneous or sequential zoom and focus motor operation upon power initiation based upon the determined voltage of a power source, as taught by Anderson et al., in the digital camera with retractable lens barrel including a lens barrier, disclosed by Takeshita, as a means to automatically compensate for the effects of power supply degradation in order to maximize a power supply's useable life, thereby optimizing camera performance independent of the power supply's operating characteristics. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to include simultaneous or sequential zoom and focus motor operation upon power initiation based upon the determined voltage of a power source, as taught by Anderson et al., in the digital camera with retractable lens barrel including a lens barrier, disclosed by Takeshita.

12. As for **Claims 12 and 13**, as stated in regards to Claim 11, determining whether there is a decrease a previous voltage level is less than a predetermined amount and determining whether a current voltage level exceeds a predetermined threshold value is substantively the same operation. Therefore, Anderson et al., as stated above, chooses between sequential motor operation and simultaneous motor operation based upon the result of the determination. In Claim 11, if the decrease is less than a predetermined amount (or rather exceeds a threshold voltage), then simultaneous operation is chosen and, in Claim 12, if the decrease is greater than an unrelated (as claimed) predetermined value (or rather does not exceed a threshold voltage), then sequential operation is chosen. Since, Takeshita provides a clear description of the lens

barrel operation, Takeshita clearly discloses, that in sequential operation the zoom motor is first driven followed by the driving of the focus motor.

13. As for **Claim 16**, Anderson et al. teach that upon a power-on signal (steps 600 and 604), the voltage sensor (76) compares the power source (74) voltage with a threshold voltage, wherein if the power source voltage (74) is less than the threshold voltage, the controller changes the power state of the camera (Power State 5 → Power State 1), from a high power state to a low power state, until the power source (74) voltage exceeds the threshold voltage, and that when the camera is connected to an AC power source, via power source (74), the controller always keeps the camera in the highest power state (Power State 5). Furthermore, Anderson et al. teach that only when the camera is in Power States 1 – 3 does the controller configure the zoom and focus motors (46) for sequential operation rather than simultaneous operation (as in Power State 5; see column 10, lines 1 – 5).

14. As for **Claim 17**, Anderson et al., as stated above, teach that that when the camera is connected to an AC power source, via power source (74), the controller always keeps the camera in the highest power state (Power State 5). Furthermore, Anderson et al. teach that upon a power-on signal (steps 600 and 604), the voltage sensor (76) compares the power source (74) voltage with a threshold voltage, wherein if the power source voltage (74) is less than the threshold voltage, the controller changes the power state of the camera (Power State 5 → Power State 1), from a high power state to a low power state, until the power source (74) voltage exceeds the threshold voltage. Therefore, since the test to determine whether an AC source is connected to the camera is by constantly monitoring the power source via the voltage sensor, the controller does in fact determine whether or not an AC power source is connected to the internal

power source on the basis of the power source voltage value during power initiation and a whether that voltage value becomes weaker.

15. As for **Claim 18**, Anderson et al. teach, as stated in column 7 (lines 55 – 65), the minimum voltage for the entire camera is 4.8 volts (the threshold voltage for Power State 1), since, when the camera is connected to an AC power source, the camera is in Power State 5 and since, Power State 5 is a much higher power state than Power State 1, it must be true that the threshold for Power State 5 is higher than 4.8 volts, and according, 2.9 volts (as required by the claim language).

16. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita in view of Kijima et al.

17. For **Claim 10**, Takeshita discloses, as shown in figures 1, 8, 14(a), 14(b), 15, 17(a), and 17(b) and as stated in columns 5 (lines 5 – 17 and 61 – 67), 6 (lines 10, 11, 26, 27, and 34 – 43), 8 (lines 5 – 30, 43 – 49, and 57 – 65), 9 (lines 13 – 18 and 33 – 37), 10 (lines 1 – 26 and 44 – 49), 11 (lines 8 – 18 and 35 – 37), and 12 (lines 1 – 10), a digital camera (see figure 15) comprising:

(a) an image reading element (32) for recording an image;

(b) lenses (4, 5, 6, 10, 11, 12, and 15) disposed for focusing an image on the image reading element;

(c)a zoom motor (38) connected to at least one of the lenses (4, 5, 6, 10, 11, and 12) for lens movement to a magnification position;

(d) a lens cover (54) movable between a closed and open position for protecting at least one lens (see figures 14(a) and 14(b));

(e) a lens cover driving motor (also 38) connected to the lens cover (via driving ring 37) and operable for moving the lens cover (54) between open and closed positions;

(f) an electric power source for supplying electrical power to the motors (Not specifically shown or stated; however, it is clearly necessary for operation; and thus, it is inherent an electric power source exists);

(g) a controller (74).

However, Takeshita does not disclose wherein the controller having a clock, the controller connected to the electric power source and controlling the image reading element, the controller determining an amount of electric energy available from the power source based on at least one of a power source voltage value during power initiation and a voltage decrease when one of the motors is operated, and when the electric energy available is determined to be less than a predetermined amount, the controller setting a lower clock speed.

On the other hand, Kijima et al. also disclose a digital camera with an image sensor, a lens barrel with focus and zoom lenses connected to a motor, an electric power source, and a controller. More specifically, Kijima et al. teach, as stated in columns 10 (lines 33 – 39), 11 (lines 47 – 67), 12 (lines 1 – 44, 66, and 67), and 13 (lines 1 – 13), of connecting a battery checker (27), which checks the residual capacity of a battery power source, to a CPU (18). The CPU (18) controls the signal generator clocking device (17), according to the output of the battery checker (27), to change a sweep out frequency of the image sensor from a higher frequency (f1) to a lower frequency (f2) or vice versa. When the battery becomes lower than predetermined value the frequency is changed to a lower frequency (f1 → f2). In regards to the claim language, at power-on, during initialization, the controller (with signal generator clocking

device 17) constantly monitors the battery, such that when the residual battery drops below a predetermined value, the controller controls to the signal generator clocking device (17) change the operating frequency of the image sensor to a lower operating frequency; thereby effectively setting a lower clock speed.

As stated in column 13 (lines 8 – 12), at the time the invention was made, one with ordinary skill in the art would have been motivated to include a controller, with a clock, that sets a lower clock speed based upon residual battery capacity, as taught by Kijima et al., in the digital camera method disclosed by Takeshita, as a means to permit battery life extension and prevent the camera system from stopping. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have include a controller, with a clock, that sets a lower clock speed based upon residual battery capacity, as taught by Kijima et al., in the digital camera method disclosed by Takeshita.

18. **Claims 4, 9, 14, 19, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita in view of Anderson et al. in further view of Kijima et al.

19. As for **Claims 4, 9, 14, 19, and 20**, while Takeshita disclose a controller, Takeshita does not disclose wherein the controller has a clock, the controller connected to the electric power source and controlling the image reading element, the controller determining an amount of electric energy available from the power source based on at least one of a power source voltage value during power initiation and a voltage decrease when one of the motors is operated, and when the electric energy available is determined to be less than a predetermined amount, the controller setting a lower clock speed.

On the other hand, Kijima et al. also disclose a digital camera with an image sensor, a lens barrel with focus and zoom lenses connected to a motor, an electric power source, and a controller. More specifically, Kijima et al. teach, as stated in columns 10 (lines 33 – 39), 11 (lines 47 – 67), 12 (lines 1 – 44, 66, and 67), and 13 (lines 1 – 13), of connecting a battery checker (27), which checks the residual capacity of a battery power source, to a CPU (18). The CPU (18) controls the signal generator clocking device (17), according to the output of the battery checker (27), to change a sweep out frequency of the image sensor from a higher frequency (f1) to a lower frequency (f2) or vice versa. When the battery becomes lower than predetermined value the frequency is changed to a lower frequency (f1 → f2). In regards to the claim language, at power-on, during initialization, the controller (with signal generator clocking device 17) constantly monitors the battery, such that when the residual battery drops below a predetermined value, the controller controls to the signal generator clocking device (17) change the operating frequency of the image sensor to a lower operating frequency; thereby effectively setting a lower clock speed.

As stated in column 13 (lines 8 – 12), at the time the invention was made, one with ordinary skill in the art would have been motivated to include a controller, with a clock, that sets a lower clock speed based upon residual battery capacity, as taught by Kijima et al., in the digital camera disclosed by Takeshita in view of Anderson et al., as a means to permit battery life extension and prevent the camera system from stopping. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have include a controller, with a clock, that sets a lower clock speed based upon residual battery capacity, as taught by Kijima et al., in the digital camera disclosed by Takeshita in view of Anderson et al.

Allowable Subject Matter

20. **Claims 5 and 15** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As for **Claims 5 and 5**, Takeshita discloses a lens barrel with a lens barrier, a zoom lens group, a focus lens group, a lens barrier motor, a zoom lens group motor, a focus lens group motor, and a controller, wherein upon power-up, the lens barrel is extended from a retracted (protected) position wherein the lens barrier is closed to a fully extended (unprotected) position wherein the lens barrier is open by sequentially driving the zoom lens group motor simultaneously with the lens barrier motor followed by driving the focus lens group motor. Furthermore, Takeshita also discloses operating of all of the above-stated features of the lens barrel simultaneously. However, Takeshita does not get into much detail regarding simultaneous operation. On the other hand, Anderson et al. discloses also discloses a digital camera at least having a zoom lens motor, a focus lens motor, a power source, and a controller, wherein the controller upon power-up constantly monitors a power source voltage level, via a sensing device, to determine if the power source voltage level has decreased beyond a variably set threshold voltage. Furthermore Anderson et al. disclose an initial simultaneous operation of the zoom lens motor and the focus lens motor and then a transition to a sequential operation should the power source voltage decrease beyond a certain threshold voltage.

However, nowhere within the cited prior art is it disclosed or fairly suggested, wherein the controller of the camera stops the focus lens (group) motor when the power source voltage

level is less than a predetermined value during simultaneous operation of said zoom lens (group) motor and said focus lens (group) motor.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following is a brief description of each of the cited prior art not used in the rejections above as labeled on attached form PTO-892.

- **Prior Art D** discloses, in the very least, a camera with a lens barrel including three lens groups wherein a motor drive control system drives each of the lens groups using a time-sharing system to reduce the rate of battery consumption.

22. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 703.305.8090. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 5:30 PM and on alternating Fridays from 7:30 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wendy R Garber can be reached on 703.305.4929. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
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